

February 1, 2017

Reference No. 1520347.200

Dominion  
5000 Dominion Boulevard  
Glen Allen, VA 23060

Via Email: [kenneth.roller@dom.com](mailto:kenneth.roller@dom.com)

Attn: Mr. Kenneth Roller  
Supervisor, Environmental Regulations

**RE: REQUEST FOR CCR POND ANALYTICAL DATA  
BREMO POWER STATION**

Dear Kenneth:

Per your request, summary of CCR pond water analysis conducted by Golder Associates, Inc. (Golder) is presented in the following sections for the Brema Power Station.

Source Water Characterization (March 2015-June 2015):

Golder collected samples from the East Pond, North Pond, and West Pond surface water; North Pond Toe Drain; and East and North Pond pore water (piezometer wells PZ-2 and PZ-1, respectively). Sampling was conducted in accordance with Golder standard operating procedures for water sampling. Analysis was conducted by various VELAP-accredited laboratories. Data is included in tabular form.

West Pond TSS Sampling:

On October 14, 2015, Golder collected total suspended solids (TSS) samples during a GroundWater Treatment & Technology LLC (GWTT) pilot study to evaluate the use of filtration on West Pond water. Sampling was conducted in accordance with Golder standard operating procedures for water sampling. Analysis was conducted by Air, Water, and Soil Laboratory (AWS), a VELAP-accredited laboratory. Data package is included.

West Pond water was routed through filtration between November 2015 and April 2016 to the North Pond. During that period, Golder collected total suspended solids samples from the influent and effluent of the filtration system. Samples were analyzed by various VELAP-accredited laboratories. Data is included in tabular form.

Pre-Permit Characterization Sampling (October 2015-January 2016):

Following the issuance of the draft VPDES permit number VA0004138, Golder conducted sampling in the North and West Ponds for permit-required parameters. In addition, a sample was collected from the James River upgradient of the Brema Power Station. Analyses were performed by various VELAP-accredited laboratories and are included in tabular form.

CSWTS Pilot Test Sampling:

On December 28, 2015, Golder collected samples during GWTT's on-site pilot study from PZ-2. Samples were collected in accordance with Golder's standard operating procedures for water sampling from process



stages within the proposed treatment process. Analysis was conducted by Pace Analytical Services, Inc. (Pace), a VELAP-accredited laboratory. Data package is included.

GWTT conducted a treatability study using source water collected from CCR ponds at Bremo to evaluate proposed treatment processes. GWTT's treatability study was included in the Bremo CSWTS CER submission. A copy of the CER Appendix B, "Treatability Study", is attached.

CSWTS Influent Sampling:

Golder began collecting influent samples from individual source water streams in May 2016 for off-site analysis by Pace. Data is attached in tabular format.

CSWTS Process Sampling:

On April 19, 2016, Golder began collecting samples from the Centralized Source Water Treatment System (CSWTS) at Bremo in accordance with the approved CER. Prior to sampling, Golder prepared a Sampling and Analysis Plan (SAP) and Operations and Maintenance (O&M) Manual. The O&M Manual and SAP were revised in June 2016. Process samples were analyzed by Pace's on-site mobile laboratory, using a project-specific modified EPA Method 200.8, in order to report results within one hour. In addition, select S3 samples were sent for analysis at a VELAP-accredited laboratory. The following is a description of the sampling nomenclature used for process sampling:

- INF: sampled from comingled influent to the CSWTS
- S1: sample location prior to the Enhanced Metals Treatment (EMT)
- S2A-F: sample location after the lead vessel in each train of the EMT
- S2: sample location after the comingled EMT
- S3: sample is a vertical composite of each tank

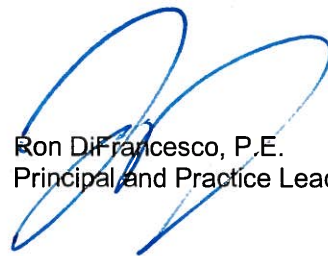
On-site and off-site process data is summarized in separate tables, and supporting data packages are included. A copy of the original April O&M and revised June 2016 O&M are included for your records.

Sincerely,

**GOLDER ASSOCIATES INC.**



Meagan E. Ormand  
Project Environmental Scientist



Ron DiFrancesco, P.E.  
Principal and Practice Leader

Cc: Jason Williams, Dominion, (e-copy)

Attachments:

Source Water Characterization  
West Pond TSS Sampling Results  
Pre-Permit Characterization Sampling  
CSWTS Pilot Test Sampling Results  
CSWTS Influent Sampling Results  
CSWTS Process Sampling Results  
April 2016 O&M Manual  
June 2016 O&M Manual Rev 1